A Glance at Seven ACM SIGWEB Series of Conferences

Swati Agarwal\textsuperscript{1}  Nitish Mittal\textsuperscript{2}  Ashish Sureka\textsuperscript{3}

\textsuperscript{1}IIIT Delhi, India  
Email: swatia@iiitd.ac.in

\textsuperscript{2}NSIT, India  
Email: nitishmittal94@gmail.com

\textsuperscript{3}ABB, India  
Email: ashish.sureka@in.abb.com

SIGWEB Newsletter 2016
Table of Contents

1 Research Motivation and Aim
   - Introduction: ACM SIGWEB
   - Scope and Objective

2 Related Work and Research Contributions
   - Literature Survey
   - Novel and Unique Contributions

3 Experimental Setup
   - DBLP Dataset Details
   - Data Distribution

4 Experimental Analysis and Results
   - Number of Publications
   - Author Participation
   - Affiliations Trend
   - Submissions and Acceptance Rate

5 Conclusions

6 References
ACM SIG on Hypertext and the Web

**URL:** [http://www.sigweb.org/](http://www.sigweb.org/)

Sponsors seven annual conferences (HT, JCDL, DOCENG, WEB-SCI, CIKM, WSDM, UMAP)

Premier conferences in the area of Web

**Topics:** hypertext, web, digital libraries, document engineering, web science, information management, information retrieval, web search, data mining and user modeling.
Specific Research Aim of the Study

Bibliometric Analysis and Scientific Paper Publication Mining

Analyze various aspects of the seven ACM SIGWEB Conferences

Present a reflection and a general overview of SIGWEB conferences by analyzing the metadata available from DBLP

DBLP: An on-line reference for open bibliographic information on computer science journals and proceedings

Analyze papers published in the seven SIGWEB conferences from beginning until September 17, 2015
Bergamaschi et al. [5]
Quantitative study of 3 SIGWEB conferences (WWW, HT and JCDL) by analyzing articles available in the Odysci Academic Search Engine

Bartneck et al. [4]
Quantitative analysis of the CHI conference and conduct an in-depth analysis of countries and organizations that contribute to the success of CHI conference
Garousi et al. [7]

Bibliometric and geographic assessment of 40 years of Software Engineering Research (1969 - 2009) and analyze how the contribution levels of top-ranked countries have changed over the years and how SE compares to other disciplines of engineering and science.

Chuang et al. [6]

Assessment of institutions, scholars, and contributions on agile software development (2001 - 2012)
Literature Survey

Rahm et al. [10]
Citation Analysis of Database publications

Henry et al. [8]
Visual exploration of the field of human-computer interaction through the author and article metadata of four of its major conferences: CHI, UIST, AVI and InfoVis

Agarwal et al. [1]
Experiments on DBLP bibliographical database and analyze several years of publication dataset across various domains of Computer Science to study Women participation
# Table of Contents

1. **Research Motivation and Aim**
   - Introduction: ACM SIGWEB
   - Scope and Objective

2. **Related Work and Research Contributions**
   - Literature Survey
   - Novel and Unique Contributions

3. **Experimental Setup**
   - DBLP Dataset Details
   - Data Distribution

4. **Experimental Analysis and Results**
   - Number of Publications
   - Author Participation
   - Affiliations Trend
   - Submissions and Acceptance Rate

5. **Conclusions**

6. **References**
Contributions to the Body of Knowledge

First bibliometric study on all the seven ACM SIGWEB sponsored conferences.

Empirical analysis is comprehensive and is based on all the DBLP entries and records for the seven SIGWEB conferences since their beginning and until September 17, 2015.

Publish the first ever bibliographic database of ACM SIGWEB conference proceedings consisting of publications, authors, affiliations records and additional metadata collected from ACM digital library.
Table of Contents

1. Research Motivation and Aim
   - Introduction: ACM SIGWEB
   - Scope and Objective

2. Related Work and Research Contributions
   - Literature Survey
   - Novel and Unique Contributions

3. Experimental Setup
   - DBLP Dataset Details
   - Data Distribution

4. Experimental Analysis and Results
   - Number of Publications
   - Author Participation
   - Affiliations Trend
   - Submissions and Acceptance Rate

5. Conclusions

6. References
Parse the DBLP database and extract the publication records of a total of 162 conferences proceedings.

For all seven conferences (since 1987 to 2015), we are able to extract a total of 9141 unique publication entries.

We extract the metadata of each publication record from ACM publisher website.
Table of Contents

1 Research Motivation and Aim
   • Introduction: ACM SIGWEB
   • Scope and Objective

2 Related Work and Research Contributions
   • Literature Survey
   • Novel and Unique Contributions

3 Experimental Setup
   • DBLP Dataset Details
   • Data Distribution

4 Experimental Analysis and Results
   • Number of Publications
   • Author Participation
   • Affiliations Trend
   • Submissions and Acceptance Rate

5 Conclusions

6 References
Number of publications consisting of author tags (7,948) and ACM concepts (6,310)

For all 13,961 distinct authors, we get a total of 8,734 distinct affiliations.
The database of SIGWEB conferences contains 13,961 distinct authors (including 356 General Chairs).
Table of Contents

1 Research Motivation and Aim
   • Introduction: ACM SIGWEB
   • Scope and Objective

2 Related Work and Research Contributions
   • Literature Survey
   • Novel and Unique Contributions

3 Experimental Setup
   • DBLP Dataset Details
   • Data Distribution

4 Experimental Analysis and Results
   • Number of Publications
   • Author Participation
   • Affiliations Trend
   • Submissions and Acceptance Rate

5 Conclusions

6 References
Figure: Heatmap Presentation of the Publications Distribution in ACM SIGWEB Conferences in 28 Years Proceedings

Frequent variation in number of published articles in old ACM SIGWEB conferences over the years.
Publication Trends

Publications Distribution in ACM SIGWEB Conferences

**New Conferences:** Started in year 2000 and onwards (WSDM, WebSci and DocEng) and **Old Conferences:** Started before year 2000 (JCDL, CIKM, UMAP and HT).

The number of articles in old conferences are increasing with a fluctuating rate (varying between 10% and 50%) and suddenly decreases with a large percentage (30% to 40% and once reaching upto 87%).

Among all old conferences, CIKM has the maximum number of publications over past decade.
Table of Contents

1 Research Motivation and Aim
   • Introduction: ACM SIGWEB
   • Scope and Objective

2 Related Work and Research Contributions
   • Literature Survey
   • Novel and Unique Contributions

3 Experimental Setup
   • DBLP Dataset Details
   • Data Distribution

4 Experimental Analysis and Results
   • Number of Publications
   • Author Participation
   • Affiliations Trend
   • Submissions and Acceptance Rate

5 Conclusions

6 References
HyperText has more variation in number of authors (varying from 48 to 201) in comparison to other conferences.
Author Participation Trends

What is the average rate of author participation?

CIKM has the maximum rate of increase in the number of authors publishing articles in the conference reaching upto 1849.

Over the past 7 years, number of authors in CIKM has never dropped down below 1,100.

In the second year of WSDM conference, number of authors are increased by 69% from first year with an average of 217.6 authors over past 8 years.
# Table of Contents

1. **Research Motivation and Aim**
   - Introduction: ACM SIGWEB
   - Scope and Objective

2. **Related Work and Research Contributions**
   - Literature Survey
   - Novel and Unique Contributions

3. **Experimental Setup**
   - DBLP Dataset Details
   - Data Distribution

4. **Experimental Analysis and Results**
   - Number of Publications
   - Author Participation
   - Affiliations Trend
   - Submissions and Acceptance Rate

5. **Conclusions**

6. **References**
Even during early years of the conference, JCDL has a very high participation of unique affiliations (187).
Affiliation Participation Data

What is the rate of participation of unique affiliations?

Number of unique affiliation participation has an increment rate for all SIGWEB conferences.

CIKM has the maximum participation over past 15 years reaching upto 611 in 2012.

Conferences has higher affiliation participation in last 10 years in comparison to the conferences happened before 2005.

In HyperText (HT) conference, the rate of unique affiliations kept decreasing with a high margin reaching upto 55%
Over past 28 years CIKM, JCDL and WSDM have the published papers across all over the world with a maximum participation from USA and Europe.
# Table of Contents

1. Research Motivation and Aim
   - Introduction: ACM SIGWEB
   - Scope and Objective

2. Related Work and Research Contributions
   - Literature Survey
   - Novel and Unique Contributions

3. Experimental Setup
   - DBLP Dataset Details
   - Data Distribution

4. Experimental Analysis and Results
   - Number of Publications
   - Author Participation
   - Affiliations Trend
   - Submissions and Acceptance Rate

5. Conclusions

6. References
Acceptance and Submission Trends

**Figure**: Variation in Number of Articles Submitted and Accepted Papers

Acceptance rate varies between 15% to 30%.

Swati Agarwal, Nitish Mittal, Ashish Sureka

A Glance at Seven ACM SIGWEB Series of Conferences
What is the trend of submissions and acceptance rate of articles?

CIKM twice has the minimum acceptance rate of 13% in 2010 and 2012.

The acceptance rate of DocEng and HyperText conferences vary between 30% to 40%.

WebSci (2012) and HyperText (2014) have the maximum acceptance rate of 57% among all SIGWEB conferences.

DocEng has a low submission rate (number of articles <90) in comparison to other SIGWEB conferences.
New SIGWEB conferences (started a decade back) are growing much faster in comparison to older conferences.

CIKM has the maximum number of articles published every year across various regions of the world.

Australia is among the least participating countries in SIGWEB conferences.

Unique affiliation participation across various regions of world is higher for JCDL and WSDM conferences.


Reinaldo A. Bergamaschi, Rodrigo Carvalho Rezende, Henrique Przibischki De Oliveira, and Akihito Kumon, Jr.
A quantitative analysis of www, hypertext and jcdl conferences in the last decade.

Sun-Wen Chuang, Tainyi Luor, and Hsi-Peng Lu.
Assessment of institutions, scholars, and contributions on agile software development (2001-2012).

Vahid Garousi and Guenther Ruhe.
Nathalie Henry, Howard Goodell, Niklas Elmqvist, and Jean-Daniel Fekete. 
20 years of four hci conferences: A visual exploration. 

Tin Huynh, Hiep Luong, and Kiem Hoang. 

Erhard Rahm and Andreas Thor. 
Citation analysis of database publications. 